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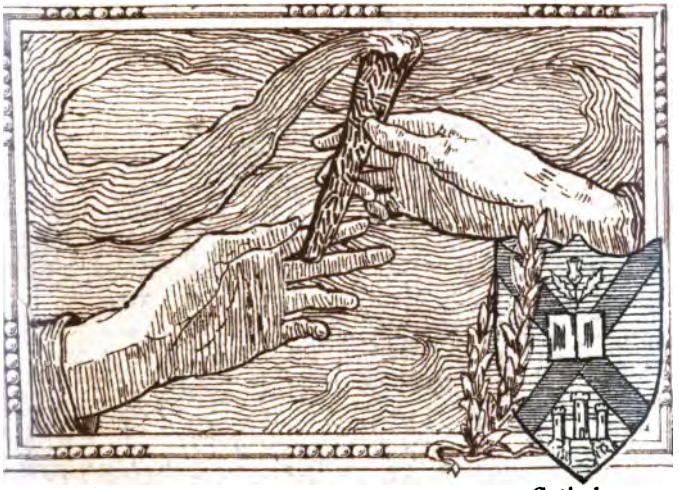

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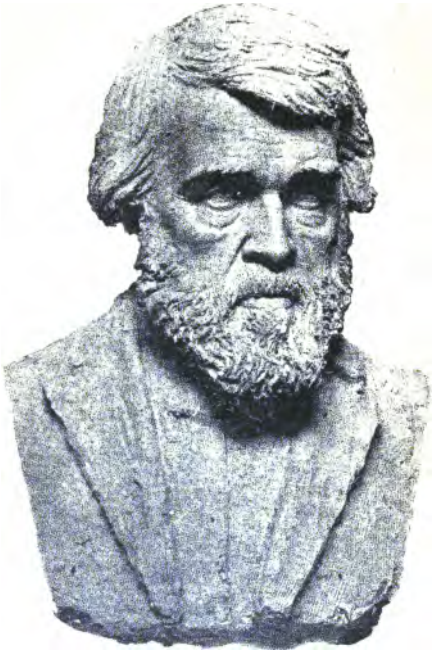

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TERCENTENARY

OF THE

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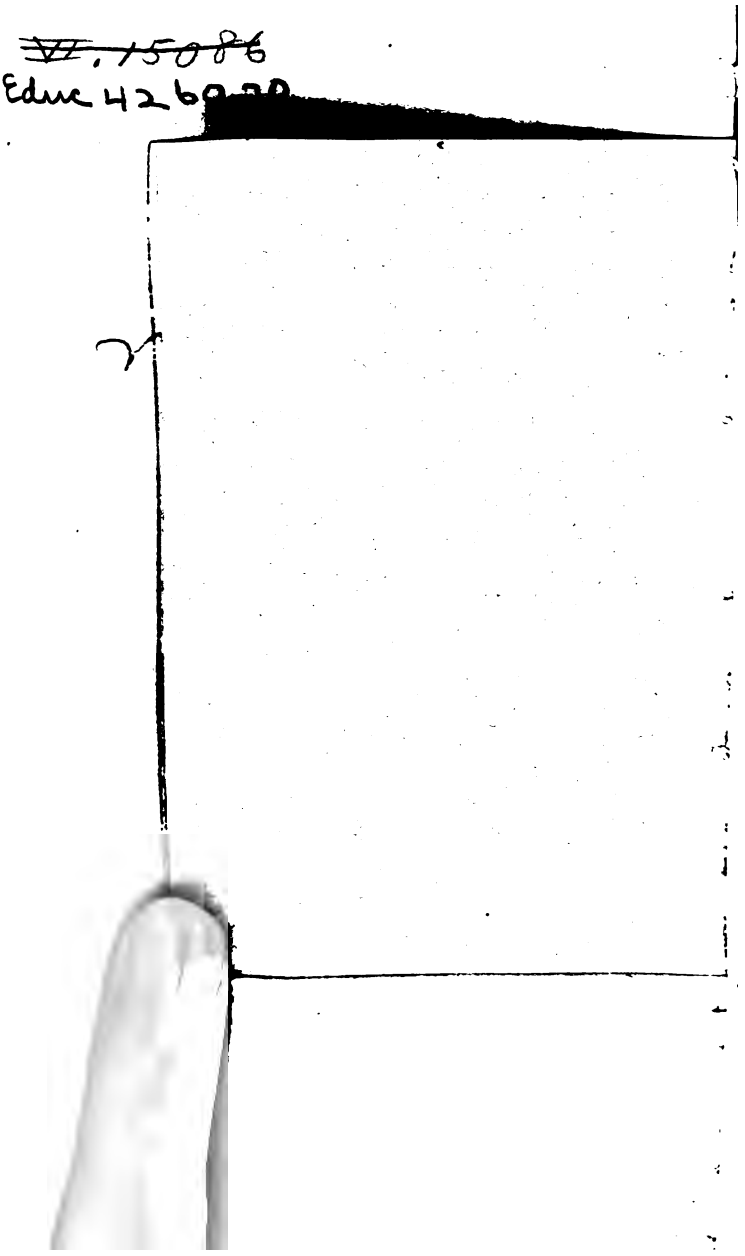

Let us now praise famous men, and our fathers which begat us.

ἀποθανῶν ἔτι λαλεῖται.

Inque brevi spatio mutantur sæcla animantum
Et quasi cursores vitaï lampada tradunt.

Quivi mi fur mostrati gli spiriti magni
Che di vederli in me stesso m'esalto.

Denn wer den Besten seiner Zeit genug
Gethan, der hat gelebt für alle Zeiten.

This man elected to do, not be—

DEDICATIONS.

I.

VIRI ILLUSTRES!

Three hundred years! As on a hill we stand
Face towards the level of the shadowy past,
We see the battle spreading huge and vast,
The forlorn hopes in silent order plann'd.
Truth holds a standard that, within her hand
Waves onward, streaming far above the blast;
And round it, fighting to the very last,
Die those who listen to her stern command.

They pass, yet passing, mould the world, and Fame,
Lifting the battle-roll with stern proud eye,
Reads with a quiver on her lip each name;
Then pausing, lo, the sad Years make reply—
"Dead on the field of honour—but to-day
Their Spirit is here, though they have passed away."

Three hundred years! What gain
From all her toil appears?
Say, has she lived in vain
Three hundred years?

Away with faltering fears!
Not hers to waste and wane,
And withering wait the shears.

But like the hills remain—
And meet with lustier cheers,
When she has lived again
Three hundred years!

PREFACE.

THE essence of our Tercentenary Celebration lies neither in pageant, feast, nor holiday, neither in the distribution of academic honours, nor in the international congress of illustrious men, natural and fitting accompaniments though all these are; but wholly in the commemoration of the Past, in the reverent remembrance of the lives and labours of those bygone generations, to whom, seldom though we acknowledge it, we owe, alike for our institutions and our culture, a debt so infinitely vaster than to our own.

And such commemoration is all the more needful in these times of sternest criticism and impending change, when no mere general claims of wealth, or dignity, or age, exempt from trial and question. It is well, therefore, at this time to sum up such evidence as we may of past efficiency, to show for our University "what gain from all her toil appears," and out of the records of three centuries to make up at once our Roll of Honour and our Cloud of Witnesses.

Hence this little book, which though all too hastily prepared in lack of any more formal catalogue, yet honestly aims at giving a terse account of each of the University's most illustrious sons, and of their contribution to the world's progress. In few departments have these contributions been small, in some unnumbered and inestimable.

For the progress of literature and history from Row and Drummond to Scott and Carlyle, of philosophy from Ferguson to Hume, or of science from Maclaurin to Maxwell, Hutton to Murchison, Darwin to Darwin, covers not merely the intellectual evolution of our university or even country, but well-nigh spans that of mankind.

Hence the names are arranged in approximately historical order, without reference to the archaic Faculties, much less to personal rank or success, whether academic or social, but according to the great movements which they mainly influenced; and these again are thrown into three series—Science and Philosophy, Art, and Public Life—an arrangement which though perhaps not strictly philosophical, was found to present fewest difficulties in practice. The list includes none whose relation to the University has been merely honorary, but any (even though their connection with other seats of learning may have been more permanent), who have

for a season either drunk of her spring, or dispensed its waters.

But the world-saturating influence of a great University is not wholly, perhaps not even mainly measured by that of her great men, but rather by those unnamed thousands of her humble scholars whom she has sent forth throughout all times and lands to teach and govern, to work and heal. Hence we, who seek only to follow in their steps, would commemorate not only the few greatest whom she has in varying measure schooled for the service of Humanity, but the unnumbered multitude of faithful men, whose voices have swelled the Choir Invisible. Our Festival then, is not only an All Saints', but an All Souls' Day; the Past is lighted up not merely by a thin line of flaring torches, but by the calmer radiance of a mist of stars; it reverberates not only with the mighty tread and pealing voices of the Heroes, but with the Chorus' mightier march and song.

SCIENCE AND PHILOSOPHY

MATHEMATICIANS AND ASTRONOMERS.

James Gregory.—Aberdeenshire, 1638—Edin. 1675.

Student in Aberdeen and Padua. Professor of Mathematics in St. Andrews (1668), and in Edinburgh (1674).

To him we owe one form of the reflecting telescope. He investigated the transformation of curves and the measurement of their solids of revolution, and wrote on optics and on purely mathematical subjects, *e.g. Vera Circuli et Hyperbolæ Quadratura.*

David Gregory.—Aberdeen, 1661—Maidenhead, 1710.

Student and Professor of Mathematics in Edinburgh, and Savilian Professor of Astronomy in Oxford.

His greatest work *Astronomiæ Physicæ et Geometricæ Elementa* was esteemed by Newton himself as a most excellent illustration and defence of his system. He taught the Newtonian doctrines in Edinburgh before they were taught in Cambridge or elsewhere, and published a complete edition of the works ascribed to Euclid.

Colin Maclaurin.—Kilmodan, 1698—Edin. 1746.

Student in Glasgow, Professor of Mathematics in Aberdeen and in Edinburgh (1725).

He wrote *A Treatise of Fluxions*, in which he answered Berkeley's attack by founding the method on geometrical demonstration. He also applied the method to various physical problems, such as that of the motion of the tides. His theory of the attraction of an ellipsoid of revolution, Lagrange describes as "un chef d'œuvre de géométrie qu'on peut comparer à tout ce qu 'Archimède nous a laissé de plus beau et de plus ingénieux."

He deserves also to be remembered as the friend of Newton, whose *Principia* he expounded in a valuable treatise, and the author of *Geometria Organica*. He was charged with the defences of Edinburgh Castle against the Pretender in 1745.

Matthew Stewart.—Rothesay, 1717—Edin. 1785.

Student in Glasgow, and Professor of Mathematics in Edinburgh (1747).

Essentially a geometer, he published in 1746 a book of General Theorems, all except the first five without proofs; and in 1763 a Collection of Geometrical Propositions, "demonstrated in the manner of the ancients."

William Wallace.—Dysart, 1768—Edin. 1843.

Student, and Professor of Mathematics in Edinburgh (1819-1838).

He wrote numerous mathematical and astronomical papers, *e.g.*, on Geometrical Porisms, on the Computation of Logarithms, on the Analogous Properties of Elliptic and Hyperbolic Sectors, two Elementary Solutions of Kepler's Problem by the Angular Calculus, etc.

Thomas Henderson.—Dundee, 1798—Edin., 1842.

Astronomer Royal and Professor of Astronomy.

He determined the parallax of α *Centauri*.

Philip Kelland.—Dunster, 1809—Bridge of Allan, 1879.

Studied at Cambridge, and Professor of Mathematics in Edinburgh (1838-1879).

His most important researches were in the department of pure mathematics, *e.g.*, his clear and elegant papers on General Differentiation, on the Theory of Parallels. He also investigated such problems as those of the aggregate effect of interference and of wave motion. A distinguished teacher.

JOHN PLAYFAIR, Professor of Mathematics, 1785; Sir JOHN LESLIE, Professor of Mathematics, 1805; and THOMAS CARLYLE, Translator of Legendre's Geometry, and author of an essay on Proportion, are commemorated under other heads.

PHYSICISTS AND CHEMISTS.

Joseph Black.—France, 1728—Edin. 1799.

Studied at Glasgow and Edinburgh. Successor to Cullen in the Chair of Chemistry at Glasgow (1756) and Edinburgh (1766).

His name is ever associated with two great discoveries—one in Chemistry, the other in Physics. The former is his discovery of Carbonic Acid gas, whose relation to the caustic alkalies he clearly demonstrated. By this discovery, he refuted the supposition that limestone on being burned became caustic in virtue of something which it obtained from the fire; and showed that its altered property was due to the escape of carbonic acid, so giving the death-blow to the Phlogiston theory, and demonstrating the value of quantitative analysis. Not less important and valuable to science was the beautiful series of investigations which resulted in his exposition of Latent Heat, and placed the subject much in the position it holds at the present day.

John Robison.—1739—1805.

Student in Glasgow (1766); Professor of Chemistry in Glasgow, and of Natural Philosophy in Edinburgh (1774).

He made many contributions to the science of mechanics; was an intimate friend of James Watt, and it was probably at his suggestion that Watt directed his attention to the improvement of the steam engine.

Daniel Rutherford.—Edin. 1749—1819.

M.D., 1772. Professor of Botany.

His doctorial thesis contains his discovery of nitrogen.

Thomas Charles Hope.—1766—1844.

Professor of Chemistry, Glasgow and Edinburgh.

Discovered the metal strontium.

Sir John Leslie.—Largo, 1766—Largo, 1832.

Student, St. Andrews and Edinburgh, Professor of Mathematics (1805), and of Natural Philosophy (1819), Edinburgh.

He deserves to be remembered for his investigation of the Principles of Radiant Heat. His results were published in his "*Experimental Inquiry into the Nature of Heat.*" He showed that light heats the bodies which absorb it, and constructed a photometer on this principle. Inventor of the differential thermometer, a hygrometer, etc., and author of the famous experiment of freezing water by the cold resulting from its own evaporation. He wrote also several mathematical works.

Thomas Young.—Somersetshire, 1773—London, 1829.

Studied in Cambridge, Edinburgh, and Göttingen.

Shares with Fresnel the honour of establishing the undulatory theory of light, and propounded the theory of interference. A learned Egyptologist, he was the first to discover the phonetic nature of hieroglyphics, and to decipher inscriptions.

James David Forbes.—Edinburgh, 1809—Clifton, 1868.

Student, and Professor of Natural Philosophy in Edinburgh (1833), and Principal of St. Andrews (1860).

A voluminous contributor to the literature of Natural Philosophy, he made important researches as to the polarisation, absorption, reflection, etc., of radiant heat and light, and proved the identity of thermal and luminous vibrations. He investigated the conductivity of metals, rocks, etc., and showed that the conductivity of a body for heat diminishes as its temperature increases. He first explained the motion of a glacier as that of a viscous body, and made many other important contributions to Geology.

Sir David Brewster.—Jedburgh, 1781—Melrose, 1868.

Studied in Edinburgh. Principal of St. Andrews (1838), and of Edinburgh (1859).

Devoting himself from the first to the study of physical optics he obtained results of fundamental importance. His memory is immortalised by his many beautiful experimental researches in which he investigated the laws of polarisation, metallic reflection, and absorption of light, etc. He showed that the majority of non-isotropic substances are doubly refractive and in general

biaxial, and that double refraction can be induced by strain and by unequal heating. Besides inventing the kaleidoscope, stereoscope, etc., and making numerous improvements in optical apparatus, he introduced the dioptric system of lighthouse illumination. No less brilliant were his powers as an expositor of science, and besides a vast number of memoirs, he wrote many well-known popular works.

Thomas Graham.—Glasgow, 1804—1869.

Studied in Glasgow and in Edinburgh. Professor of Chemistry in Glasgow and London (1837), and Master of the Mint (1855).

His numerous and beautiful researches centre round the problem of molecular motion. He investigated the laws of the diffusion, transpiration, and absorption of gases, and established the famous law that the diffusion rate of gases is inversely as the square root of their densities. His other contributions include researches on the transpiration and diffusion of liquids, on the constitution of salts as illustrated by the case of those of phosphoric acid, and on other more technical subjects, and were all characterised by experimental originality and simplicity.

James Clerk Maxwell.—1831—1879.

Edinburgh (1847-50) and Cambridge (1850-54). Professor of Natural Philosophy, Aberdeen (1856-60); King's College, London (1860); Cambridge (1871).

His importance lies (1) in his mathematical treatment of physical problems, see *e.g.* his Memoirs on Faraday's Lines of Force, on the Stability of Saturn's Rings, on the Kinetic Theory of Gases, and greater works on Heat, Electricity and Magnetism: (2) in his experimental power. His work on *Electricity and Magnetism*, 1873, is said to be "one of the most splendid monuments ever raised by the genius of a single individual." He provided a physical theory of electro-magnetism, overthrowing the conception of action at a distance, and reducing all electric and magnetic phenomena to the stresses and motions of a material medium. He also made contributions to pure mathematics, *e.g.*, on the transformation of surfaces by bending.

ANDREW URE, GEORGE WILSON, SAMUEL BROWN, W. J. M. RANKINE, and JOHN SCOTT RUSSELL are commemorated elsewhere.

GEOGRAPHICAL EXPLORERS.

James Bruce.—Perthshire, 1730—1794.

African Traveller. Educated at Harrow and studied civil law, etc., in University (1747). Travelled in Portugal, Spain, etc. (1757, etc.); became Consul-General at Algiers; set out for the sources of the Nile in 1768, and returned to England in 1774.

Though Bruce cannot be called the discoverer of the Head of the Nile, he at least traced to its source the Blue Nile—the main factor in the inundations which give much of its character and historic importance to the River of Egypt The accuracy of his statements (roundly scouted in many cases as *lies* by his time-fellows) has been abundantly proved. See Murray's Life prefixed to the 1805 ed. of *Bruce's Travels in* 1768-1773; and Playfair's *Travels in the Footsteps of Bruce.*

Mungo Park.—Selkirkshire, 1771—1805.

One of the heroes of African travel. Educated at Selkirk Grammar School and at University. As gardener at Hammersmith attracted the notice of Sir Joseph Banks, and after serving as assistant surgeon on board an East Indiaman was sent out by the African Association. In 1796, he reached the Niger at Sego, but after much hardship and danger had to return to England in 1797. On a second expedition, in 1805, he succeeded in making his way down the river from Sansanding to Bussa, where he was slain by the natives.

No progress of discovery will put out of date Park's *Travels in the Interior Districts of Africa* (1799), which, eagerly read at the time for their new facts, are no less attractive still for their ever new human interest.

William Balfour Baikie.—Kirkwall, 1820—1864.

M.D. Surgeon in R. N. (from 1848) and African Explorer. On death of Consul Beecroft (1854) took command of the "Pleiad" expedition to the Kworra and Benue, and afterwards commanded the Niger expedition of 1857, and had charge for several years of the Government Experimental Settlement at Lukoja. He made numerous contributions to African geography and philology.

William Scoresby.—Whitby, 1790—Torquay, 1857.

Artic Explorer. Went to sea in his father's ship as a boy, spent winters in study at the University; after retirement from sea entered the church, D.D., Cambridge. He surveyed a large portion of coast of Greenland, made classical studies of its glacial phenomena, besides valuable observations on magnetism, meteorology, etc.

Sir John Richardson.—Dumfries, 1787—Grasmere, 1865.

Arctic Explorer and Naturalist. Graduated as M.D. (1816) at University; was Surgeon and Naturalist under Franklin in the 1819-22 and 1825-27 expeditions; and in 1847-49 commanded a Franklin search expedition.

Contributed natural history material to the account of Franklin's expeditions, and other works of Arctic travel; and wrote *Fauna Boreali Americana* (1831-37).

CHARLES DARWIN and other travellers are commemorated elsewhere.

GEOLOGISTS.

James Hutton.—1726—1797.

M.D. He early abandoned medicine for agriculture, and devoted the last thirty years of his life to geological and meteorological studies, the outcome of which was the publication of his famous *Theory of the Earth* and a *Theory of Rain*. Hutton taught that all geological phenomena had been the result of forces still in action, by which the crust of the globe would continue to be modified in the future. He deprecated all appeals to imaginary agencies, and maintained that the only sure method of unravelling the past was by first studying the present. He showed that most of the rock-masses visible at the earth's surface must have been deposited in the form of gravel, sand, and mud at the bottom of the sea; that they had not been accumulated continuously, layer above layer, like the coats of an onion, but that now and again the bed of the sea had been elevated, the strata contorted, fractured, and denuded, and again submerged and covered with newer deposits formed out of the debris of older accumulations. He was the first to establish the former molten condition of granite and many other crystalline rocks; and he further held that sedimentary strata deeply buried in the earth's crust might, by the combined action of heat and pressure, be converted into crystalline masses, and such, he maintained, was the origin of the crystalline schists of the Highlands, etc. Hutton taught further that the present configuration of the land was due directly to the denuding action of the subaerial forces—rain, frost, rivers, etc. "The mountains," he said, "have been formed by the hollowing out of the valleys, and the valleys have been hollowed out by the attrition of hard materials coming from the mountains." Hutton is therefore justly regarded as the founder of the modern system of Geology.

John Playfair.—1748—1819.

Educated for the Church at St. Andrews; for some time a minister; in 1785 Joint-professor of Mathematics in Edinburgh; in 1805 Professor of Natural Philosophy.

In his famous *Illustrations of the Huttonian Theory* he sets forth the geological views of Hutton, and supports them with much originality and acumen, so giving a great impetus to the study of physical geology. His style, clear and incisive, vigorous, but always under control, vivacious but refined, is a model which later writers on scientific subjects have seldom approached and never surpassed. He discerned the glacial origin of the large erratics from the Alps which are scattered over the Jura, thus anticipating the later generalisations of glacial geology.

Sir James Hall.—1761—1832.

Author of a work on Gothic Architecture, but best known by his Papers on Experimental Geology in the Trans. of the Roy. Soc., Edinburgh. By ingenious physical experiments, he corroborated some of the most disputed doctrines taught by Hutton. His work is still highly appreciated, especially by foreign geologists, by whom he is considered the founder of Experimental Geology.

Robert Jameson.—1774—1834.

Studied Natural History under Walker in Edinburgh, and subsequently spent two years in Freyberg under the tuition of Werner. In 1804 was appointed to the Chair of Natural History.

Was an enthusiastic follower of Werner, and an excellent teacher. Although a disciple of Werner, and opponent of Hutton, he yet modified some of the views held by his master, maintaining that in determining geological formations the evidence supplied by fossil organic remains was as essential as that furnished by mineralogical and petrological characters. He was joint founder with Brewster, and Editor of the *Edinburgh Philosophical Magazine*, and also founded the Wernerian Society.

John MacCulloch.—1773—1835.

M.D. Chemist to the Board of Ordnance in 1803.

The results of prolonged investigation into the Mineralogy and Petrology of the Western Islands of Scotland placed MacCulloch

in the front rank of his geological contemporaries. In 1826, he was commissioned by Government to prepare a Geological Map of Scotland, which was completed, but not published till after his death. He will always be remembered from the fact that he was the first to trace out the distribution of the various rock-masses of Scotland with some approach to accuracy.

Sir Thomas Dick Lauder.—1748—1848.

Author of a Paper *On the Parallel Roads of Glenroy* and of the well-known *Account of the Great Moray Floods of* 1829, a work still frequently referred to by writers on Physical Geology.

Sir William Logan.—Montreal, 1798—Llechryd, 1875.

Studied at High School and University. Associated with Sir Henry de la Beche in the Geological Survey of South Wales Coalfield. Appointed in 1842 to be Director of the Geological Survey of Canada.

Author of numerous papers, etc., on Geological subjects. Was the first to point out that the underclays upon which coal-seams rest are ancient soils; recognized the true position of the Huronian strata, and showed that these are later than a great series of metamorphic rocks, which he designated the *Laurentian;* was the first to recognize the organic origin of Eozoon Canadense; and in 1871 endowed the Logan Chair of Geology in the M'Gill University.

Hugh Falconer.—Forres, 1808—London, 1865.

King's College, Aberdeen, M.A., 1826; Edinburgh, M.D., 1829. In 1830 went to India as an Assistant-Surgeon in H. E. I. C. S. In 1832 Superintendent of the Botanic Gardens at Suharunpoor. In 1847 Professor of Botany in the Calcutta Medical College.

Author of many botanical papers relating chiefly to the flora of India. His most important work was the discovery and description of the organic remains of the Sewalik Hills; was distinguished for his researches on the Quaternary Mammalia of Europe; and was the foremost palæontologist of his day in Britain. The Falconer Fellowship was founded in his memory.

Thomas Oldham.—Dublin, 1816—Rugby, 1878.

Studied at Trinity College and Edinburgh, 1832-1838. Joined Geological Department of the Ordnance Survey of Ireland in 1839. Director of the Irish Geological Survey in 1846. In 1845 Professor of Geology in the University, Dublin; in 1848 President of the Geol. Soc. of Dublin. In 1850 went to India as Superintendent of the Geological Survey there.

Oldham's most important works are the reports published by the Geological Survey of India, some of the memoirs in which were personally contributed by him, such as one *On the Fossil Flora of the Rajmahal Series*, and his Essay *On the Coal Resources of India.*

Edward Forbes.—Isle of Man, 1815—Edinburgh, 1854.

Matriculated in Edinburgh University in 1831. Author of many papers and works on Natural History. Appointed Palæontologist to the Geological Survey in 1844, and obtained the Chair of Natural History in Edinburgh University in 1854.

Forbes's work has greatly influenced the progress of Geology. Gifted with a fine imagination and conspicuous for the philosophical breadth of his conceptions, he brought his great stores of zoological and botanical knowledge to bear upon many questions in historical geology. His admirable work on the *Fluvio-marine Tertiaries of the Isle of Wight* established the order of succession of those deposits, and formed a model for subsequent investigation. But it was by his paper *On the Connection between the Distribution of the existing Fauna and Flora of the British Islands and the Geological Changes which have affected this area*, that Forbes will continue to be best known to geological inquirers. Some of the views advanced in this celebrated memoir have been set aside by later observations, while others have been more or less modified, but the lines of his inquiry, his methods of investigation, the boldness and originality of his conceptions, the philosophical breadth of his generalizations—in a word, his insight into the working of nature are instinct with genius, and will ever be suggestive to those ardent minds, whose instincts impel them to be something more than mere collectors of dry facts.

Robert Harkness.—Ormskirk, 1816—Dublin, 1879.

Student, 1833-4. Professor of Geology, Queen's College, Cork, 1853.

His chief papers, published in the *Quart. Journ.* of the Geol. Soc., relate to the Palæozoic rocks of the north of England, and the southern uplands of Scotland. He was distinguished for his power of rapidly unravelling the geological structure of a region.

Sir Roderick Impey Murchison.—Tarradale, Ross-shire, 1792—London, 1871.

Studied at the Royal Military College, Great Marlow, and for a short time at Edinburgh. Became a geologist in middle age. Director-General of the Geological Survey in 1855.

Author of more than a hundred papers on Geology. His most important works are *The Silurian System*, 1839; *The Geology of Russia and the Ural Mountains*, 1845; and *Siluria*, 1854. He defined the Silurian System and the Permian System, and established the fact of a graduated transition from secondary to tertiary rocks in the South-east Alps, etc.; was the first to recognise that the gneissic rocks of the North-west Highlands of Scotland are the oldest in Britain; and inferred the presence of auriferous deposits in Australia long years before their actual discovery. Murchison was pre-eminent for the skill with which he could read the geological structure of a country. Founded the Murchison Chair of Geology and Mineralogy.

David Forbes.—Douglas, Isle of Man, 1828—London, 1876.

Author of many papers and lectures on Metallurgy, Mineralogy and Geology. His geological papers deal largely with the physico-chemical changes in rocks; those relating to the origin of foliation being especially suggestive. Forbes travelled much in S. America (1857-1860), and afterwards published his important paper *On the Geology of Bolivia and Southern Peru*, in which amongst other interesting conclusions he shows that vast masses of rock have been metamorphosed, and delineates "the grand cycles of physical and chemical changes which accompany the evolution of mountain-ranges on the grandest scale."

John Allan Broun, T. Makdougall Brisbane, John Welsh, and other Meteorologists, are also worthy of remembrance.

CHARLES WILLIAM WELLS, JAMES DAVID FORBES, and CHARLES DARWIN are commemorated elsewhere.

ZOOLOGISTS AND BOTANISTS.

Erasmus Darwin.—Elton, Nottinghamshire, 1731—Derby, 1802.

Studied Arts in Cambridge, and Medicine in Edinburgh.

Endowed with the most extraordinary insight and originality, in his works entitled *Zoonomia, or Laws of Organic Life* and *The Botanic Garden*, he anticipated many modern opinions on physiological and pathological questions, predicted the importance of microscopic studies, and gave many other instances of speculative genius and prophetic capacity, contemptuously termed "Darwinising" by his contemporaries. He propounded independently views like those of Goethe and Lamarck, emphasizing the modification of species through function, habit, environment, and heredity, and was the great forerunner of his grandson.

His eldest son, Charles (stud. med. 1775-8), died of a dissecting wound at the outset of a career of the most brilliant scientific promise.

Charles Wm. Wells.—Charleston, 1757—London, 1817.

M.D., Edinburgh.

Chiefly memorable for his classical essay on *Dew*, termed by Herschel "one of the most beautiful specimens of inductive experimental inquiry." One of his papers contains an anticipation of the theory of natural selection.

Robert Kaye Greville.—Bishop Auckland, 1794—Edin. 1866.

Studied at Edinburgh and London.

As collector, systematist, and artist, he added greatly to our knowledge of the cryptogamic flora, and is commemorated by "Grevillea."

Robert Brown.—Montrose, 1773—London, 1858.

Student, Aberdeen and Edinburgh. Keeper of the Department of Botany, British Museum.

His first great contribution to science was an account of the Flora of New Holland and Van Diemen's Land, which he had visited as exploring naturalist. This and succeeding works began a new era in systematic botany, disclosing the hitherto undetermined affinities of various groups, and finally establishing the Natural System. Uniting power of patient special research with that of broad generalisation, "he unravelled with true morphological insight many structural complexities, such as those of Conifers and Cycads, Orchids and Proteaceæ; and by his anatomical researches, *e.g.* on fertilisation, and on the structure of the ovule, and his demonstration of the affinities of the Gymnosperms, earned Humboldt's famous eulogium 'facile princeps botanicorum.'"

Robert Grant.—Edin. 1793—London, 1874.

M.D., Edinburgh; Prof. Comp. Anat. and Zool., Univ. Coll., London.

He is best known for his researches on the structure and economy of the Sponges. From the first an evolutionist, he taught as early as 1826, that species are descended from other species by persistent modification.

Edward Forbes.—Douglas, Isle of Man, 1815—Edin. 1854.

Student, Edinburgh and Paris, Prof. Nat. Hist., School of Mines, London, and in Edinburgh.

His early labours consisted in the investigation of the fauna and flora of various regions which he visited, such as Algiers, Styria, Aegean Sea, Lycia, etc. His observations were those of a naturalist in the widest sense, and were ever united with generalisations as to the influence of climate, environment, and geological changes on the organisms discussed. He first investigated systematically the bathymetrical range of marine organisms, and was one of the earliest and most important students of distribution. As a geologist, he is separately commemorated.

Sir C. Wyville Thomson.—Linlithgow, 1830—1882.

Professor in Aberdeen (1851); Cork (1853); Belfast (1854); and Edinburgh (1870).

Known by researches on Echinoderm embryology, but specially identified with that series of investigations of the fauna of the deep sea, which culminated in the voyage of the Challenger, 1872-1876. Of this expedition he was Scientific Director: wrote accounts of this and former cruises, and was engaged up till his death in editing the "Scientific Results."

Charles Robert Darwin.—Shrewsbury, 1809—Down, Kent, 1882.

Student of Natural Science in Edinburgh (1825-27), and in Cambridge (1827-30). Member of the University Plinian Society, to which he contributed his earliest papers.

The results of that circumnavigatory voyage in the "Beagle," which he made in 1831-6, were embodied in the imperishable *Naturalist's Voyage* and in a series of geological and zoological works, among which may be mentioned *The Structure and Distribution of Coral Reefs*, *Geological Observations in South America*, and *Monograph of the Cirripedia*. In 1859 he published the *Origin of Species*, in which he finally excluded the Linnæan dogma of the constancy of species, and with it the special creation hypothesis, shewed systematically that evolution is the *modal* explanation of the origin of organic beings, and defined the action of various factors in the process, laying special emphasis on Natural Selection. Referring evolution mainly to the interaction of the laws of variation and heredity, he illustrated on the one hand the influence of function and environment in producing modifications, and on the other, the operation of natural and sexual selection in preserving and perpetuating them. "All the previously unco-ordinated and often divergent lines of biological research and generalisation were now unified; all the enigmas of structure and function which refused to be harmonised by the 'type theory' were solved; the labours of the systematist, palæontologist, and the embryologist alike acquired new meaning and importance; ontogeny found its explanation and complement in phylogeny; and indeed the whole of biology crystallised around a new centre."

In his later works he extended and applied this supreme generalisation to almost all departments of the natural history sciences. His contributions to botany include not only

important physiological monographs, such as those on Insectivorous Plants and on Plant-Movements, or those researches on Flower Fertilisation in which he resuscitated the forgotten labours of Sprengel, and shewed how the forms of flowers largely result from the various methods of their fertilisation, but those revolutionising conceptions of development and distribution which he applied to vegetable as well as to animal organisms. In his *Descent of Man* and *Variation of Plants and Animals under Domestication*, he followed out with the greatest detail certain other lines of research indicated in the *Origin of Species*, while in his work on *The Expression of the Emotions* the far-radiating influence of his doctrines was illustrated in relation to Psychology.

His works not only furnish a model of patient observation and scientific method, of the minute analyses and vast syntheses which distinguish an ideal naturalist, but have led to that entire change in our conception of the past and future of the world's history which is suggested by the term *Evolution*.

Among others, the following are also of honourable memory:—

Sir Robert Sibbald (*d.* 1712). Founder of the Botanic Garden.

Sir James E. Smith (*d.* 1828). Systematist, and Founder of the Linnæan Society.

John Fleming (*d.* 1851). Author of the *Philosophy of Zoology*.

W. Macgillivray (*d.* 1852). Author of the *History of British Birds*.

H. D. S. Goodsir. Naturalist, lost with Sir John Franklin.

George Johnston (*d.* 1855). Zoologist, Author of *History of British Zoophytes*.

George Walker Arnott (*d.* 1868). Cryptogamist and Systematist.

Thomas Anderson (*d.* 1870). Botanist, and initiator of quinine-growing in India.

William Baird (*d.* 1872). Carcinologist.

Sir William Jardine (*d.* 1874). Ornithologist, and Editor of *Naturalist's Library*.

T. Strethill Wright (*d.* 1876). Investigator of the Cœlenterata.

Andrew Murray (*d.* 1878). Entomologist, Botanist, and Distributionist.

Hewett Cotrell Watson. Topographical and Geographical Botanist.

George Dickie (*d.* 1882). Algologist.

Wm. Lauder Lindsay (*d.* 1883). Lichenologist and Animal Psychologist.

John Hutton Balfour (*d.* 1884). Teacher and Systematist.

ANATOMISTS AND PHYSIOLOGISTS.

Alexander Monro.—London, 1697—1767.

Generally known as Monro *primus*. The son of John Monro (a retired Army Surgeon, Deacon of the Incorporation of Surgeons in 1712-13, and generally regarded as the true founder of the University Medical School). Studied in Edinburgh, and afterwards with Cheselden in London, Bouquet in Paris, and Boerhaave in Leyden. Appointed Professor of Anatomy, 1720, and resigned in 1759.

As a teacher of Anatomy he was widely celebrated, and his published works are "full of thought and fact." His great work on Osteology went through eight editions in his life-time, and was translated into most European languages. It has been truly said of him: "He had to do a new thing in Edinburgh, to teach Anatomy, and to provide for the study of it, in a town of then only thirty thousand inhabitants, and in a half-civilised and politically disturbed country; he had to gather in students, to persuade others to join with him in teaching, and to get an Infirmary built. All this he did, and at the same time established his fame, not only as a teacher but as a man of science, and gave a name to the Edinburgh School, which benefited still more the generation which followed him. This really great and good man, therefore, well earned the title often given him of Father of the Edinburgh Medical School."

Alexander Monro.—1733—1817.

Son of the preceding, commonly known as Monro *secundus*. When twenty-one years of age appointed colleague and successor to his father, on the understanding that he was specially to study Anatomy abroad. After graduating the following year, he accordingly spent three years in study with William Hunter in London, with Albinus in Leyden, and with Meckel in Berlin.

He became sole Professor of Anatomy in 1759, obtained his son as colleague and successor in 1798, and retired in 1808.

Successful and famous both as teacher and discoverer, and author of numerous works on Human and Comparative Anatomy, still frequently referred to.

Sir Charles Bell.—Edin. 1774—1842.

Was trained to Anatomy and Surgery by his brother, John Bell. He entered the College of Surgeons in 1799, and taught Anatomy there till 1804, when he went to London. Professor of Anatomy, Physiology, and Surgery, R.C.S., Eng. In 1836 he accepted the Edinburgh Chair of Surgery.

Distinguished alike as an Anatomist and as a Surgeon, he is, however, most renowned as a Physiologist. To appreciate fully the importance of his discoveries, it would be necessary "to imagine ourselves ignorant not only of all we know of the functions of the various cerebro-spinal nerves, but even of the fact that there are distinct nerves for motion and for sensation." His works were numerous, among the more famous being *The Anatomy of Expression* (1806); *The Bridgewater Treatise on the Hand* (1835); and many on the *Nervous System.*

John Barclay.—Perthshire, 1760—Edin. 1826.

Educated for the ministry, but afterwards studied medicine, graduating in 1796.

The contemporary and rival of Monro *secundus* and the two Bells, he was the first to devote his whole time to Anatomy, and attained considerable success as a teacher. Single handed he formed an important museum, still preserved by the College of Surgeons, and wrote several works, of which the most important are *The Muscular Movements of the Human Body* (1808); and a *Description of the Arteries* (1812).

Robert Knox.—Edin. 1791—London, 1862.

M.D., 1814. For a time a Surgeon in the Army; he afterwards studied in Paris, and finally settled in Edinburgh in 1820, where he became the successor of John Barclay as Teacher of Anatomy. Afterwards removed to London.

He was a brilliant teacher and writer; and, endowed with true morphological insight, he rendered great service by his systematic application of Comparative to Human Anatomy.

Marshall Hall.—Nottingham, 1790—Brighton, 1838.

Student in Edinburgh, and on the Continent. Pres. Roy. Med. Soc. (1811-12). M.D. 1812. He removed to London in 1826. His researches on the General Physiology of the Nervous System, and especially on Reflex Action, were of especial importance. He was the author of numerous important works on these and kindred subjects.

John Reid.—Bathgate, 1809—St. Andrews, 1849.

M.D., 1830. Afterwards Professor of Anatomy in St. Andrews. He investigated the spiral fibres of the heart, and demonstrated their mode of action. He was the able advocate and defender of Kellie's views on the cranial circulation; he studied the phenomena of asphyxia; but his life-work was the elucidation of the functions of the glossopharyngeal and pneumogastric nerves. He embodied his discoveries in his *Experimental Investigations of the Nerves.*

Martin Barry.—Hampshire, 1802—Suffolk, 1855.

M.D., 1833. Pres. Roy. Med. Soc. along with John Reid and James Young Simpson.

Worked at microscopic anatomy, with great success, investigating, among other subjects, the structure of the blood corpuscles and the nature of cilia. But it is as an Embryologist that he is chiefly memorable, for to him we owe our knowledge of the development, structure, and fertilisation of the mammalian ovum.

John Goodsir.—Anstruther, 1814—Edin. 1867.

Student under Knox and Jameson in Edinburgh, and Professor of Anatomy.

Besides numerous anatomical and physiological and zoological researches, *e.g.*, on the Thymus, Thyroid and Suprarenal bodies, on glands, on Amphioxus, etc., he investigated the development and structure of teeth. A profound and speculative thinker in all departments of biology, he was among the first to interest himself in promorphological inquiries, to emphasize the persistence and essential character of the nucleus as a "centre of nutrition," and to apply the nascent "cell-theory" to Pathology.

William Sharpey.—Arbroath, 1802—London, 1880.

Student, Edinburgh, London, Paris, Berlin, and Prof. Anat. and Physiol. Univ. Coll. London.

He first defined the nature, use, and distribution of Cilia, and investigated the minute structure and growth of bone; but is especially memorable for the extraordinary personal influence and power of organisation which have given so great impulse to physiological studies in Britain.

Allen Thomson.—Edin., 1809—London, 1884.

Studied at the High School; M.D., 1830; Lecturer on Anatomy, 1831; Professor of Anatomy in Aberdeen, 1839; of Physiology in Edinburgh, 1842; of Anatomy in Glasgow, 1848-1877.

From his student days he gave great attention to Embryology, and largely contributed to the progress of that branch of Biology. As a teacher, he occupied a foremost place, and to the descriptive side of Anatomy he made many additions.

JOHN BELL and other distinguished Anatomists and Physiologists are commemorated elsewhere.

HISTORIANS AND BIOGRAPHERS.

David Calderwood.—1575—Jedburgh, 1650, and **John Row.**—Perth, 1568—1648.

Each was author of a *History of the Church of Scotland*, and accumulated a valuable store of materials for subsequent reference.

Sir George Mackenzie.—Dundee, 1636—Westminster, 1691. Buried in Greyfriars, Edinburgh.

Named "Bluidy Mackenzie," for his share in the administration of Charles II.

As Dean of Faculty of Law, he gave the Inaugural Address at the foundation of the Advocates' Library. A light and graceful essayist and poet, and author of works of great historic value. Of these the best known are his *Discourse upon the Laws and Customs of Scotland in matters Criminal* (1678), *Observations upon the Acts of Parliament* (1686), *A Vindication of the Government of Scotland under Charles II.*, and the *Jus Regium*, A Defence of the Doctrine of Prerogative.

William Robertson—Borthwick, 1721—Edin. 1793.

Student (1733); Principal (1762). One of principal founders of the Royal Society.

His *History of Scotland* (1759) displayed wide research, great skill in handling details, and considerable graphic power. Of his principal remaining works, *A History of Charles V.*, *A History of America*, and a Treatise upon India, his introduction to the first named is of especial value, as giving a general survey of the institutions and growth of mediæval society. He is best defined as one of the precursors of the scientific treatment of history, and the immediate forerunner of Gibbon.

Adam Ferguson. — Logierait, Perthshire, 1723 — St. Andrews, 1816.

Professor of Natural Philosophy (1759), and of Moral Philosophy (1764).

In various ethical works he endeavoured to frame a vague eclecticism from the theories of Hobbes, Hume, Hutcheson, Smith, and Montesquieu. His more important works are his *Essay on the History of Civil Society* (1767), and a *History of the Progress and Termination of the Roman Republic* (1784), the former a work of considerable merit.

Lord Hailes (Sir David Dalrymple).—Edin. 1726—1792.

An eminent lawyer and historian.

More careful in the accumulation than in the literary treatment of facts. Chief works: *Annals of Scotland from Malcolm Canmore to Accession of House of Stuart* (1776-1779), several volumes on *Christian Antiquities*, some editions of the *Fathers*, a *Criticism of Gibbon's Secondary Causes*, etc.

James Boswell.—Edin., 1740—London, 1795.

Studied at Glasgow, Edinburgh, Utrecht.

From his earliest days betrayed a weakness for meeting great men, and became a member of the famous literary club which Johnson founded. To his hero-worshipping propensities we owe the work which has conferred upon him lasting fame. His *Life of Johnson*, as it was the first biography of its kind, so is it still the best. Boswell had the rare gift of allowing his characters to speak for themselves, yet of connecting these by a thread of narrative, which gave his work its artistic unity. He is the prince of biographers.

Alexander Fraser Tytler.—Edin. 1747—1813.

Student and Professor.

A universal historian of some merit, and author of several legal and critical treatises. His father, William Tytler, and son, Patrick Fraser Tytler, also gave evidence of historiographic ability, the former in his defence of Queen Mary, the latter in his *History of Scotland*, *Biographies of Crichton*, *Craig*, *Raleigh*, *Henry VII.*, etc.

James Currie.—Ecclefechan, 1756—Sidmouth, 1805.

M.D. Student of medicine at Edinburgh and Glasgow. Became acquainted with Burns, 1792.

Edited Burns' Works and wrote his life, for the benefit of the poet's widow and family. According to Carlyle, "the first and kindest of all our poet's biographers."

Malcom Laing.—Mainland, Orkney, 1762—1818.

Author of a *History of Scotland* from the accession of James VI. to the reign of Queen Anne, and editor of the *Ossianic Poems*.

Thomas M'Crie.—Duns, 1772—Edin. 1835.

Student, 1788. First dissenter to receive degree of D.D.

His chief work, *The Life of John Knox*, is full of hearty sympathy with the hero's deeds and character, displays wide research into contemporaneous history combined with skilful handling of materials, though somewhat one-sided in its critical estimates of men and events. In the controversy between M'Crie and Sir Walter Scott concerning the portraiture of the Covenanters in "Old Mortality," the great novelist is generally allowed to have come off second best.

Barthold Georg Niebuhr.—Copenhagen, 1776—Bonn, 1831.

Studied at Kiel, 1794-96; at Edinburgh, 1788-89. He lectured at Berlin in 1810; Prussian Ambassador at Rome in 1816-23; Professor at Bonn thereafter.

He was one of the most acute and influential of modern historians and critics, and his great work on Roman history created an epoch throughout the field of historical investigation.

Henry Dundas Cockburn.—Edin. 1779—Edin. 1854.

Student, Member of Speculative Society, Solicitor-General of Scotland (1831), and Judge in Court of Session (1834).

Biographer of Lord Jeffrey (1852), and author of *Memoirs of my Times*, published posthumously in 1856.

Sir Archibald Alison—Kenley, Shropshire, 1792—Glasgow, 1867.

Author of a *History of Europe from the time of the French Revolution*—a work of some research and interest. Also author of works on the *Principles of Population*, and on *Criminal Law*; Biographer of Marlborough, Castlereagh, etc.

John Gibson Lockhart.—Lanarkshire, 1794—1854.

A leading contributor to *Blackwood*, and Editor of *Quarterly Review*. Translator of Spanish Ballads into stirring English verse, and able Biographer of Napoleon 1829, Burns 1838, and Scott 1836-8. The last a permanent classic.

Cosmo Innes.—Durris, 1798—Killin, 1874.

Professor of History, 1846.

As a laborious student of public records and contemporary documents, he accumulated materials of great historic value. He was one of the first authorities on Scottish Legal Antiquities, and author, amongst other works, of *Scotland in the Middle Ages*, and of *Sketches of Early Scottish History*.

J. F. M'Lennan.

Anthropologist, and author of *Primitive Marriage*.

William Mure of Caldwell.—1799—1860.

Educated at Westminster, Edinburgh, and in Germany. His travels in Greece quickened his classical knowledge.

His life-work—*A Critical History of the Language and Literature of Ancient Greece*, 5 vols. By the author's death it was left unfinished, the 6th vol. bringing his survey down to the Attic Drama. He entered fully into the Homeric Question, and after an exhaustive analysis remained convinced of the substantial unity of the Homeric Poems as we now have them. The work commended itself to scholars by its acute and cogent reasoning, its fresh treatment of world-old theories, its bright and animated style.

George Finlay.—Faversham, Kent, 1799—Athens, 1875.

Failing in the forcible attempt under Byron to remedy the condition of modern Greece, he took upon himself what he terms "the sterile task of recording its misfortunes."

Chief work—*History of the Greeks under Foreign Domination, and of the Greek Revolution*, 7 vols. Finlay is a recognised authority on the history of mediæval and modern Greece. His work gives evidence of wide and accurate scholarship, while through it all there breathes warm sympathy with the struggles of the Greeks for independence.

John Hill Burton.—Aberdeen, 1809—Edin. 1882.

M.A., Aberdeen. Admitted to Scottish Bar, 1831. Soon abandoned law for the more congenial field of letters. Historiographer Royal for Scotland.

His *magnum opus* is his *History of Scotland from Agricola's Invasion to the Revolution of* 1688—a work of classic rank, acknowledged on all hands to be *the* History of Scotland, not likely to be superseded for many years to come. To the accomplishment of his great task, Hill Burton brought the rare combination of scrupulous research into the minutest details, a well-balanced and judicial mind, and a gift of style at once picturesque and dignified. His other works of note are *The Book Hunter*, full of genial "quips and cranks," *The Scot Abroad*, and the interesting and invaluable *Life and Correspondence of David Hume*, also a *History of the Reign of Queen Anne*.

Thomas Carlyle.—Ecclefechan, 1795—Chelsea, 1881.

Studied arts here, 1809-15; divinity afterwards; and law, 1818-19; Lord Rector, 1865-68.

At once essayist, biographer, historian, and moral teacher, Carlyle stands foremost amongst the English writers of the nineteenth century. As historian, he made it his task to disentangle from the chaos of incidents the vital forces that mould life and make history. To this work he brought a power of thorough and laborious research, a profound and keen insight, a faculty of sympathy or disapproval almost too passionate; and he enforced his conceptions of character and events on his readers with a vivid descriptive power unsurpassed in literature, with a wealth of illustration, and with a full command of pathos and humour. As a preacher of righteousness, he deeply stirred the

hearts of two generations of English-speaking men, though few of those who have learned most from him will accept his maxims of practical politics. He contradicted many traditional beliefs, and ran counter to most current opinions, not by way of paradox, but from fixed conviction; for though he constructed no articulate scheme of belief, and held lightly all elaborate systems, there is hardly a page of the eighty-four volumes of his works that does not plainly bear the impress of his characteristic mode of thought, couched in language as original—pithy, pregnant, and graphic, with a rugged rhythm, all his own.

Notable amongst his works are the essays, translations, and lectures by which he first familiarised Englishmen with modern German literature: a translation of Legendre's *Geometry; Sartor Resartus;* his great "prose epic," *The French Revolution; Heroes and Hero-Worship; Past and Present; Oliver Cromwell's Letters and Speeches; The Latter-Day Pamphlets; The Life of John Sterling;* and *A History of Frederick the Great.*

PHILOLOGISTS.

Lord Monboddo.—1714—1799.

Studied at Aberdeen, Edinburgh, and Gröningen.

In his *Origin and Progress of Language* he strangely anticipates some of the methods and results of recent philology and anthropology.

John Wilson.—1804—1875.

Studied for the Church. Indian Missionary, Vice-Chancellor of Bombay University.

He was a thorough master of the language of Western India, and had a vast and scholarly knowledge of the literature, history, and faiths of Indian races. He wrote on *The Parsi Religion* and *India Three Thousand Years Ago.*

John Muir.—1810—1882.

Studied at Glasgow and at Haileybury, and was in the Indian Civil Service from 1828-1853.

As founder of the Chair of Sanskrit and Comparative Philology, he is closely connected with the University. He was an accomplished Sanskritist, a zealous student of the history of religions. His great work, a monument of learning, is the *Original Sanskrit Texts on the Origin and History of the People of India, their Religion and Institutions.*

William Ramsay.—1806—1865.

Studied at Edinburgh and at Cambridge; Prof. of Humanity at Glasgow.

He was a distinguished classical scholar and a very influential teacher. He is known for his *Manual of Roman Antiquities*, his *Manual of Latin Prosody*, and his edition of the *Mostellaria of Plautus.*

JOHN LEYDEN and others are commemorated elsewhere.

PHILOSOPHERS.

David Hume.—Edin. 1711—Edin. 1776.

Studied at Edinburgh, 1723-8. Visited France 1763-6, and met Rousseau, Diderot, Turgot, Buffon, and others.

In the *Treatise on Human Nature* (1739), following Locke in deriving all knowledge from experience, he makes a *reductio ad absurdum* of the Idealism of Berkeley by applying to subjective conceptions a criticism similar to that which had resolved the world of matter into an abstraction. "Mind," he said, "existed only as a series of impressions." Such scepticism had a disintegrating effect on the old metaphysics, preparing the way for the work of Kant, especially on the side of the theory of knowledge. He may also be regarded as having prepared the way for the modern doctrine which justifies the hypothesis of the existence of matter on the ground of its affording the only consistent explanation of phenomena, and which regards mind as a generalized expression of the functions of an organism. He further initiated the scientific definition of *cause* as the sum of antecedent conditions, thus largely helping to supersede teleological speculations. In the *Inquiry into the Principles of Morals* (1751), he directs attention to the social character common to all actions approved as moral, the recognition of which has been the basis of most subsequent ethical theories. His *History of England* (1762) was long a classic. In several of his *Essays* he made valuable contributions to the scientific study of economics. (See Hill Burton's Life and Huxley's Monograph).

Dugald Stewart.—Edin. 1753—Edin. 1828.

Studied, Edinburgh, 1765-9. Professor of Mathematics, 1775; Moral Philosophy, 1785.

He followed Reid in his so-called common-sense protest against the conclusions of Berkeley and Hume, and carrying forward that philosopher's more thorough analysis of mental faculties gave

a strong impetus to psychological studies. He exerted incalculable influence as a great teacher on a large number of men who afterwards helped to mould their generation, such as Brougham, Jeffrey, and Cockburn.

James Mill.—Forfarshire, 1773—London, 1836.

Studied, 1790-7.

After publishing the *History of British India* he became head official of the India House. In close relation to Bentham and Ricardo, he wrote much on Politics and Economics, giving the impulse to the school of economists represented by his son, John Stuart Mill. In his *Analysis of the Human Mind* he demonstrated the importance of the principle of *association* in Psychology, and of considerations of *utility* in Ethics. (See Bain's Life and J. S. Mill's Autobiography.)

Thomas Brown.—Kirkcudbright, 1778—London, 1820.

Studied, 1792-1803; Prof. Moral Philosophy, 1810-20.

While in the main following the lines of Reid and Stewart, he sought to give greater simplicity and unity to their psychological analysis.

Sir William Hamilton, Bart.—Glasgow, 1788—Edin. 1856.

Stud. Glasgow, 1803-6; Edinburgh, 1806-7; Oxford, 1807-10; Edinburgh, 1811-14. Prof. of Civil History, 1821; Logic and Metaphysics, 1836-56.

He wrote no systematic work, and his philosophy must be gathered from his *Lectures* and *Discussions*, and from his critical edition of Reid's works, in all of which the philosophical acumen and the immense learning he displays are equally remarkable. His analysis of consciousness led him to regard thought as a process of *conditioning*, a definition which brought into prominence the now current doctrine of the relativity of knowledge; while his conception of the *infinite* and the *absolute* have helped to the view which regards these terms as artifices of expression for realities which exist only subjectively. He is the chief representative of the Scottish School of Philosophy. (See Veitch's Life.)

James Ferrier.—Edin. 1808—St. Andrews, 1864.

Stud. Edinburgh, 1825-27; Oxford, 1827-31; Heidelberg, 1834. Prof. of Civil Law, 1842-45; St. Andrews, Mor. Phil. and Pol. Econ. 1845-61.

In his *Institutes of Metaphysics*, like the German transcendentalists, he sought to reach a truer synthesis than Reid and his followers, by laying new stress on the subjective element inseparable from all acts of knowledge. His style as a writer is admirable, his brilliant lectures on Greek Philosophy being specially memorable.

ART

ARCHITECTS, ENGINEERS, AND TECHNOLOGISTS.

Robert Adam.—1728—1792.

Studied here, and subsequently spent three years in Italy. He rose to high eminence as an architect, designed the present University building, was appointed Architect to the King, and at his death was buried in Westminster Abbey.

John Rennie.—1761-1821.

Student in 1780. Studied under Black and Robison, and spent at college, as he himself says, the three most profitable years of his life.

He was the architect of the three great London bridges, the engineer of the Plymouth breakwater, and of the principal London docks. He superintended the execution of several great canals, of docks and bridges, in all parts of the country, and of many other works of national importance. He was buried in St. Paul's Cathedral.

Andrew Ure.—1778—1857.

M.D. Studied at Glasgow and Edinburgh. Published in 1829 *System of Geology*. Better known as a chemist.

Robert Stevenson.—1772—1850.

Studied several sessions at Edinburgh.

His most remarkable enterprise was the erection of the famous Bell Rock Lighthouse; he in all erected twenty-three lighthouses, and did much for rivers, bridges, harbours, canals, and railways.

W. H. Playfair.

High School and University. Architect.

Completed University building, and erected many public buildings in Edinburgh.

Robert Stephenson.—1803—1859.

The son of George Stephenson. Studied natural philosophy, chemistry, and geology, 1822-23.

Amongst the achievements of his engineering skill are the Britannia Tubular Bridge, the great Victoria Bridge across the St. Lawrence at Montreal, two bridges across the Nile at Damietta, and the high level bridge at Newcastle. He was buried in Westminster Abbey.

John Scott Russell.—1808—1883.

Studied at Edinburgh, St. Andrews, and Glasgow.

Author of well-known researches on the nature of waves and the resistance of fluids to motion of floating bodies. Distinguished as a naval constructor. He published an important treatise on *The Modern System of Naval Architecture*. He wrote also on Technical Education, but is too little known as an educational reformer.

George Wilson.—Edin. 1818—Calcutta, 1860.

Studied 1832-37; M.D., 1839; Prof. of Technology, 1855-1860.

He wrote much and well on chemistry, technology, and miscellaneous subjects. His *Researches on Colour-Blindness* were valuable; *The Five Gateways of Knowleage* is his best known work.

W. J. Macquorn Rankine.—Edin. 1820—Glasgow, 1872.

Studied in Edinburgh, Professor of Engineering in Glasgow, 1858.

He propounded in 1849 a "Hypothesis of Molecular Vortices," from which he deduced the general equation of the mechanical action of heat. Author of numerous theoretical researches of fundamental importance, he was the first systematically to apply the science of thermodynamics to practical questions. He investigated the propulsion, resistance, etc., of ships, the motion of waves, besides numerous problems in applied mechanics.

PHYSICIANS.

Archibald Pitcairne.—1652—1713.

Professor of Medicine in Leyden, 1692-95, and joint-professor of Medicine in Edinburgh, with Sir Robert Sibbald and Dr. James Halket.

These three men did much to raise the condition of the healing art in Scotland, and, amongst other useful works, founded the Royal College of Physicians of Edinburgh in 1681.

John Fothergill.—1712—1788.

M.D., 1736. A distinguished London Physician, who devoted himself with much success to the study of nervous diseases. His name is commemorated by the Fothergillian Medal of the Medical Society of London.

Robert Whytt.—1712—1766.

M.D., Rheims, 1736; M.D., St. Andrews, 1737. Professor of Institutes of Medicine and Practice of Physic in the University in 1747.

Like Fothergill, he was one of the pioneers in the study of nervous diseases, upon which subject he has left an indelible mark.

William Cullen.—Hamilton, 1710—1790.

Educated at Local Grammar School, and University of Glasgow. Probably received most of his professional training from John Paisley, to whom he was articled as a pupil. After five years practice he spent two years at the University of Edinburgh, and was one of the founders of the Royal Medical Society. In 1736 returned to Hamilton, where he had William Hunter as a pupil; 1740 he graduated in Glasgow, and in 1744 migrated thither, where he commenced to lecture on Medicine (thus apparently originating the Glasgow School); and in 1751

was appointed to the Chair of Practice of Physic. Became Professor of Chemistry, Edinburgh, 1755, and inaugurated the teaching of Clinical Medicine. In 1766 he succeeded Robert Whytt in the Chair of Institutes of Medicine, and in 1773 he became Professor of Practice of Physic.

In an age given up to scholasticism, Cullen's teaching was not only wonderfully free of its baseless theories, but powerfully aided the introduction of the methods of positive science into modern medicine; he founded Solidism in Pathology, and his doctrines were soon widely accepted. Students flocked to Edinburgh from all countries, and returned as teachers, thus spreading the wide influence which he possessed upon his age.

His most important works are *The First Lines of the Practice of Physic* (1777); *Institutions of Medicine* (1777); *Synopsis Nosologiæ Methodicæ* (1785); and *A Treatise of the Materia Medica* (1789).

John Gregory.—Aberdeen, 1724—Edin. 1773.

The son of James Gregory, Professor of Medicine in Aberdeen and founder of the medical school there; and grandson of the inventor of the reflecting telescope. M.D., Aberdeen, 1746; studied also in Edinburgh, Leyden, and Paris. After succeeding his father in Aberdeen, he was appointed in 1766 Professor of Practice of Physic in Edinburgh.

His influence as a physician and as a teacher was very great. His principal work is the *Elements of the Practice of Physic* (1772).

James Gregory.—Edin. 1750—1822.

M.D., 1774. Son of the preceding.

Distinguished not only as the successor and exponent of Cullen, but as a teacher and man of wide culture.

John Brown.—Berwickshire, 1735—London, 1788.

Studied 1761. At first assistant to Cullen. He left him to lecture on a new system of medicine (mainly founded on the division of all diseases into sthenic and asthenic). His theory enjoyed considerable influence for many years, and had many adherents, the so-called Brunonians.

John Cheyne.—Leith, 1777—1836.

M.D., 1795; Artillery Surgeon, 1795-99; Pupil of John Bell; Professor of Medicine to the Irish College of Surgeons, 1811.

He founded clinical teaching in Ireland, and at his feet sat Graves, Stokes, and Corrigan. He made many additions to the study of disease, but these are far out-weighed by the lasting results of his influence upon the Irish physicians of his time.

John Abercrombie.—Aberdeen, 1780—Edin. 1844.

M.D., 1803.

Eminent as a philosophical physician, and author of *Inquiries respecting the Intellectual Powers* (1830); *Philosophy of the Moral Feelings* (1833), etc.

William Pulteney Alison.—Edin. 1790—1859.

Son of the Rev. Archibald Alison, Author of *Essays on the Nature of Taste*, and Dorothea, daughter of John Gregory, M.D., 1811. Professor of the Institutes of Medicine, 1821; of Medicine, 1842.

Beloved and revered alike by his patients and his students, he was the ideal of a physician and a teacher. Author of *Outlines of Pathology and Practice of Medicine*, and other works, all remarkable for their breadth of generalization.

Sir Henry Holland, Bart.—1788—1873.

Pres. Roy. Med. Soc. 1809-10, and M.D. 1810.

He established himself in London; and although leaving only a few remarkable essays had a wide influence in stimulating others.

Richard Bright.—1789—1858.

Pres. Roy. Med. Soc. 1812-13; M.D. 1813.

Settled in London, and became a pioneer in medical research. Author of numerous important medical works, and investigator of the disease which bears his name.

Sir Robert Christison, Bart.—Edin. 1797—Edin. 1882.

Son of Alexander Christison, Professor of Humanity. Educated at the High School. M.D. 1819. He afterwards studied in Paris under Robiquet, Guy-Lussac, and Orfila. Appointed to the Chair of Medical Jurisprudence, 1822; Professor of *Materia Medica*, 1832-77. Memorable equally as one of the founders of Medical Jurisprudence, and on account of vast contributions to Pharmacology and Therapeutics.

He was the author of *A Treatise on Poisons* (1829); *Granular Degeneration of the Kidneys* (1838); *Dispensatory* ((1842).

Robert James Graves.—Dublin, 1795—1853.

M.B., Dublin, 1818. Studied in Edinburgh, 1819. Prof. of Institutes of Medicine, University of Dublin. A clinical teacher of wonderful power, and was discoverer of the disease bearing his name.

His *System of Clinical Medicine*, originally published in 1843, has gone through many editions.

William Stokes.—1804—1877.

M.D., 1825. He became Regius Professor of Physic in the University of Dublin.

His works on *The Diseases of the Chest* and *The Diseases of the Heart and the Aorta* (1854) are classical.

Sir Dominic Corrigan, Bart.—Dublin, 1802—1880.

Like Stokes, he aided powerfully in medical progress in Ireland, and was the author of many important papers.

James Hope.—Cheshire, 1801—1841.

M.D., 1825. Pres. Roy. Med. Soc., 1824-24. Physician to St. George's Hospital, London.

His investigations, especially those upon the Circulation, have been of signal service to science, and his work on the *Diseases of the Heart and Great Vessels* has not yet been surpassed either for matter or style.

Sir James Young Simpson, Bart.—Bathgate, 1811—Edinburgh, 1870.

Educated at Bathgate. M.D., 1832. Pres. Roy. Med. Soc. 1835-36 along with Martin Barry and John Reid. In 1840 appointed Professor of Midwifery. A most distinguished and memorable Obstetrician; he introduced anæsthetics in the practice of midwifery, and was the discoverer of the physiological effects of chloroform.

John Hughes Bennett.—London, 1812—1875.

M.D., 1837. Chair of Physiology, 1848-74.

One of the most renowned teachers of clinical medicine during the present century. He inaugurated a new era in medical education by the introduction of practical instruction in Physiology, and gave a great impetus to clinical research. He also shares with Virchow the credit of discovering the disease known as leucocythæmia or leukæmia.

Charles Murchison.—Jamaica, 1830—London, 1879.

M.D., 1851. As a clinical teacher, he was one of the ablest of the century.

In addition to other works, he wrote a classical *Treatise on the Continued Fevers of Great Britain.*

SURGEONS.

Alexander Monteith.—*d.* 1713.

President of the College of Surgeons in 1695; and an early and distinguished teacher of Anatomy and Chemistry.

Benjamin Bell.—Dumfries, 1749—Edin. 1806.

Studied, London and Paris. Surgeon, Royal Infirmary, 1772.

To him belongs the merit of clearly defining Syphilis, and he also taught that forms of Phthisis, Epilepsy, etc., might be due to the same cause. He insisted on the value of preserving skin when operating. He regarded access of air to wounds and frequent dressing as injurious.

John Bell.—Edin. 1763—Rome, 1820.

Lecturer on Anatomy and Surgery, 1786-80; Surgeon and Anatomist.

A distinguished pupil of the second Monro, was famous as a teacher and operator; and, in fact, the reformer of surgery in Scotland, since the first to apply the science of Anatomy to practical surgery.

James Wardrop.—Linlithgow, 1782—London, 1869.

Studied in London and Paris. Practised in Edinburgh, and afterwards in London. A distinguished oculist and surgeon.

He was the first who treated Aneurism successfully, according to Brasdor's method of distal ligature. He published a beautifully illustrated work on *The Morbid Anatomy of the Human Eye* (1808), and a work *On Aneurism* in 1828.

Robert Liston.—Linlithgowshire, 1794—London, 1847.

He was a pupil of Barclay, and studied also in London. Prof. Clinical Surgery in Univ. Coll., London, 1835.

Liston was distinguished as a most brilliant and rapid operator. To him we owe the introduction of the cutting bone forceps.

John Lizars.—1794—1860.

A pupil of John Bell; lectured on Anatomy and Surgery; Prof. of Surgery, R.C.S., 1831.

Distinguished both as an anatomical iconographer and operative surgeon; ligatured the innominate artery; introduced the excision of the upper jaw, and was one of the first to advocate and practise operative interference in cases of ovarian tumour.

Sir George Ballingall.—1786—1855.

Army Surgeon, served in India, Java, and France. Professor of Military Surgery, 1822.

Wrote a work on the Construction of Hospitals.

James Syme.—Edin. 1799—Edin. 1870.

Studied in France and Germany. When eighteen years of age he discovered a method of waterproofing cloth (Mackintosh). At his own expense, in 1829, he converted old Minto House into an hospital. Prof. Clinical Surgery 1833.

Among the many improvements in surgical practice which he devised, and which are recorded in his works (*Principles of Surgery*, etc., 1831), may be mentioned his amputation of the foot at the ankle-joint, his treatment of the largest tumours of the jaw, of lingual cancer, and his revival of the old operation for Aneurism by cutting directly into its cavity. He devised a method of removing cartilages from joints, and demonstrated the power of the periosteum in forming new bone. His treatment of diseased elbow and shoulder-joints by excision marks a new epoch in surgery.

Richard Mackenzie.—1819—Crimea, 1854.

Surgeon to the Royal Infirmary, and Lecturer in Surgery.

His name is associated with the operations of excision of the knee-joint, and amputation at the ankle-joint.

William Pirrie.—*d.* 1882.

Pupil of Knox and Liston. Studied at Paris.

He did much to establish the Aberdeen Medical School; was a distinguished Surgeon, and wrote on Acupressure, etc., besides publishing a text-book on Surgery.

Sir William Fergusson, Bart.—Prestonpans, 1808—London, 1877.

Lecturer on Surgery, 1831. Surgeon to the Royal Infirmary, 1836. Professor of Surgery, King's College, London, 1840. A pupil of Knox the Anatomist.

He extended the teaching of Syme as regards excision of the elbow-joint, and in face of much opposition applied the same to the knee and hip-joints, besides doing much to improve other operations. He was a strong advocate for the so-called "Conservative Surgery."

James Spence.—Edin. 1812—Edin. 1882.

Studied in Paris. In 1842 taught Anatomy; in 1854 Surgeon to the Royal Infirmary and Lecturer on Surgery; in 1864 Professor of Surgery.

He wrote *Lectures on Surgery*, 2 vols. (1871) and published experimental investigations connected with the ligature of arteries; Remarks on the Sources of Hæmorrhage after Lithotomy, Clinical Reports and Observations.

EDUCATIONISTS.

Alexander Adam.—Forres, 1741—Edin. 1809.

Head-Master of Watson's Hospital, 1761; thence passed, in 1768, to the Rectorship of the High School of Edinburgh, which post he filled with conspicuous ability till his death. He had the rare fortune to have as pupils Sir Walter Scott, Jeffrey, Brougham, Lord Cockburn, and others scarcely less distinguished. Wrote a *Manual of Roman Antiquities*.

James Pillans.—Edin. 1778—Edin. 1864.

Pupil of Dr. Adam, and his successor in the Rectorship. Having large classes to deal with, he was the first in Scotland to adapt to classical teaching the monitorial method which, in the hands of Bell and Lancaster, at one time proved so successful in our elementary schools, and which has since been developed into our pupil-teacher system. Professor of Humanity in the University of Edinburgh for upwards of forty years. By means of pamphlets and addresses, he was long an enthusiastic advocate for educational reform.

Aglionby Ross Carson.—Dumfries-shire, 1780—Edin. 1850.

Arts Student, 1797. Succeeded Pillans as Rector (1820-1845). Besides being a noted teacher, he had a wide reputation for classical scholarship.

Sir Daniel Sandford.—Edin. 1798—Glasgow, 1838.

Son of the Bishop of Edinburgh. Studied at Edinburgh and Oxford; Professor of Greek at Glasgow.

By refined scholarship, enthusiasm, and marked ability as a teacher, he did much to foster the study of Greek literature in Scotland.

George Combe.—Edin. 1788—Farnham, 1858.

Studied, Edinburgh, 1806-10. Writer to the Signet.

He was the first in this country to support the phrenological theories of Gall and Spurzheim, which, in their *main* interpretation of the functions of the brain, are now generally accepted by biologists, and the new school of psychologists. In his *Constitution of Man* (1828), he proposed, as a philosophic basis for religion, a demonstration of the harmony of natural laws. His views on phrenology, education, and the treatment of the criminal classes have had a wide influence in America and on the Continent as well as in his own country. (See Gibbon's Life.)

George Birkbeck.—Settle (Yorkshire), 1776—London, 1841.

Studied at Leeds, Edinburgh, London. M.D., 1798. Professor of Natural Philosophy, Glasgow, 1799; afterwards London physician.

Originator of a scheme to establish Mechanics' Institutes throughout the country, thereby leading the way towards the modern popularisation of science.

William Ballantyne Hodgson.—Edin. 1815—Brussels, 1882.

Student, and Professor of Political Economy.

An eager advocate of rational means and aims in school education, as well as of Mechanics' Institutes. His teaching of Economics was undertaken in a similar spirit—that of the ardent social reformer rather than of the scientific thinker. A useful work entitled *Errors in the Use of English* is one fruit of his many-sided culture, which an active sympathy and a singularly persuasive gift of speech led him to express, for the most part, in personal ways.

William Drummond.—Hawthornden, 1585—1649.

Graduated 1605. After a few years of foreign travel, he settled at Hawthornden, where Ben Jonson paid him a memorable visit in 1619.

Drummond rather allies himself in poetic thought and feeling to the school of English poets which carried on the influence of Spenser into the reigns of James I. and Charles I. He will always find admirers for his sonnets, which, for stateliness of verse and a certain Miltonic grandeur of conception, have been placed by competent critics very near those of Shakespeare, Milton, and Wordsworth. His *Cypress Grove*, a prose essay on death, has been ranked with the finest work of Sir Thomas Browne.

Robert Blair.—Edin. 1699—Athelstaneford (East Lothian), 1746.

Minister of latter place for fifteen years.

Wrote in blank verse *The Grave* (1743), a somewhat dull, didactic poem, though lit up here and there by passages of power and beauty.

James Thomson.—Ednam, 1700—London, 1748.

Student, 1715-24.

Although not a poet of the first, hardly perhaps of the second, magnitude, the permanency of Thomson's fame remains secure. His *Seasons* reach the high-water mark of the nature-poetry of his day, and undoubtedly shew a great advance in that path which led to the poetry of Wordsworth and the succeeding school. In addition to this, his *Castle of Indolence*, his *Hymn*, and the ever-popular national lyric, *Britannia rule the Waves* (attributed to him), have each taken a place of its own in our literature.

David Mallet or Malloch.—1700—1765.

Editor of Bolingbroke's works. Author of tragedies, *Eurydice*, *Elvira*, and *Mustapha*, and popular minor poems.

Mark Akenside. — Newcastle-on-Tyne, 1721 — London, 1770.

Student of medicine at Edinburgh and Leyden.

Chief poem: *Pleasures of the Imagination.* In dignified and sonorous language he unfolds his philosophic theory, and breathes life into it by wealth of illustration and power of rhetorical exposition.

John Home.—Leith, 1722—East Lothian, 1808.

Student about 1740. Clergyman and Dramatic Poet.

Is remembered as being the author of the tragedy of *Douglas*, the successful production of which, on the Edinburgh stage, so offended his clerical brethren that he was compelled to retire from the ministry. He was an associate of David Hume, Adam Smith, and Principal Robertson.

Oliver Goldsmith.—Ireland, 1728—London, 1774.

Studied medicine, 1750-2. Studied previously at Trin. Coll., Dublin, and subsequently at Leyden and at Padua or Louvain, where he took degree of B.M.

Travelled a great part of Europe on foot, playing the flute for livelihood. After these wanderings he settled in London, and on the publication of *The Traveller* rose to poetic fame, becoming member of the famous Literary Club, which, including Burke, Johnston, Reynolds, and Garrick, was probably the most brilliant society of which our literary annals have record.

While the spring of his genius lay in his quick and tender sympathies, in the swift response of his heart to the joys and sorrows of the humblest of his fellow-creatures, his purely literary gifts were of the first order. Nothing can excel in art his apparently artless style, so that it did not seem possible for him to treat any subject without informing it with a peculiar naive charm. In his choice of subjects for his poems, he may almost be said to have inaugurated the movement which assumed such importance in the hands of Burns and Wordsworth. Apart from these touching and genuine poems, his immortal comedy,

She Stoops to Conquer, and his other delightful prose works, he leaves us a novel, which can only be ranked beside the masterpieces of Cervantes, Boccaccio, Le Sage, and Defoe.

Henry Mackenzie.—Edin. 1745—1831.

Student about 1761-4.

Novelist and journalist of high popularity and repute in his day, yet the permanence of his fame is doubtful; but this at least should be recorded of him, that he was the first to hail, in the pages of the *Lounger*, the genius of Burns. He was one of the earliest, also, to recognize the value of German Literature, and to draw attention to Schiller and Lessing. Burns happily styled him the "Scottish Addison."

Michael Bruce.—Kinross, 1746—Kinross, 1767.

Son of a weaver. Studied for the ministry, and supported himself by teaching. He died of consumption at the age of twenty-one.

His college friend John Logan (who disputes with him the authorship of the "*Ode to the Cuckoo*") edited his poems. His Elegy written in the spring before his death, possessing a painful autobiographic interest, is considered his best poem.

Walter Scott.—Edin. 1771—Abbotsford, 1832.

Studied 1783-6.

Undoubtedly the greatest literary genius connected with our University, he has at least three distinct grounds upon which a permanent fame might be based. It is curious that before essaying poetry or fiction as an original author, he established his fame as a literary historian; (1), by so solid and important a production as his *Border Minstrelsy*. Then it seemed as if by his importunacy he had roused from her long slumbers the Muse herself, who thereupon burst into renewed song. (2) Scott's narrative poems have all the dash and carelessness of the moss-trooper's raid, together with its fine out-of-door freedom and instinctive skill in conduct. Greatly as other poets may excel him in finish, in lyric beauty, in depth of thought, in subtlety of phrasing, he must even here rank with the greatest, in virtue of the power of rendering his creations thoroughly concrete and vital. His descriptions of nature have, if in a less degree, a similar merit, and produce their effect with remarkable simplicity

and directness. That (3) in prose fiction, Scott found the best medium for his genius goes now without saying. Verse-form, which to many is an imposed restraint of greatest value, was to this creative giant an obstructive limitation. Under the freedom of the novel's form his genius rose to its full height, as it never could under limitation of drama or poem. His novels are a theme too familiar and inexhaustible to call for criticism or exposition here. It can only be said that since Shakespeare, no man had produced in number or quality such a series of creations as he.

Like the greatest of dramatists, Scott seems to have had a strangely inadequate sense of the worth and importance of his own genius. We find him in his latter days producing hurried and imperfect work; yet withal, we must fearlessly endorse the dictum of his latest and most subtle critic, John Ruskin, that Scott is "the greatest intellectual force since Shakespeare."

John Leyden.—Denholm (Roxburghshire) 1775—Java, 1811.

Son of a shepherd.

Soon became distinguished for his knowledge of languages. His strong desire to become an Oriental scholar led him to the East, where, after giving promise of becoming a distinguished philologist, he died of fever. Leyden has left behind him poems marked at once by exquisite melody and a fine feeling for nature, and some of his stanzas have been praised by Scott (who was greatly indebted to him in his Minstrelsy of the Scottish Border) as "exhibiting a power of numbers, which, for mere melody of sound, has seldom been excelled in English poetry."

Thomas Campbell.—Glasgow, 1777—Boulogne, 1844.

Studied Law 1798. Studied previously in Glasgow, and was distinguished there for his knowledge of Greek Literature.

It was a residence amid the wild and stern scenery of the West Highlands that awoke the poet in Campbell. His *Pleasures of Hope* has yet to be surpassed for splendid poetical rhetoric. His martial lyrics, however, undoubtedly furnish his true title to immortality; they combine the terse vigour characteristic of Horace, with a clear, fervid tone that stirs the blood like a bugle sounding a charge. *The Last Man*, if somewhat inflated, is still a poem of singularly weird power. In his prose writings and lectures, and his share in the founding of London University, he did good service to literature and learning.

Thomas Aird.—Bowden, 1802—Dumfries, 1876.

Studied at Edinburgh.

A poet and prose writer of great literary merit, contributor to *Blackwood* in its most brilliant days, he appears in most of his works to have missed that outstanding excellence and power that secures permanent attention. *The Devil's Dream*, however, would seem to afford a marked exception in this respect, and so serves as the life-buoy of his fame. The associate in his early days of Christopher North and his compeers, he lived to be the companion of Thomas Carlyle.

William Edmondstoune Aytoun.—Edin. 1813—Edin. 1865.

Professor of Rhetoric and English Literature for twenty years.

In his *Lays of the Scottish Cavaliers* Aytoun has done for Scottish history, ranging from Flodden Field to the disastrous defeat of the Jacobites at Culloden, what Macaulay did for Ancient Rome. In both we find the same onward rush of the verse, the same impassioned treatment of a heroic past, the same thrilling and regretful pathos. His *Ballads of Bon Gaultier* (in which he had for coadjutor Sir Theodore Martin) and his *Firmilian*, a satire on poetic contemporaries, abound in sallies of wit and flashes of genuine humour.

John Brown.—Biggar, 1810—Edin. 1882.

M.D., Essayist, and Critic.

Slight as the bulk and importance of his works may appear, there is that peculiar quality of literary touch which demarks genius from talent. He possesses that simple and subtle pathos, that tender and delicate humour, which are hardly to be found elsewhere except in the pages of Lamb and Goldsmith.

Alexander Smith.—Kilmarnock, 1830—Edin. 1867.

Secretary of the University from 1854.

A poet of distinct genius and power, his fame has been subject to sudden vicissitudes which alternately exaggerated and underrated his powers. It was his *Storm and Stress* poem, *The Life Drama*, that first brought him fame, but it has a hectic colour that argues ill for its longevity. His *City Poems* and his

delightful prose writings have a matured force and mellowed lustre from which we may infer a more enduring renown. He has a marked felicity in simple lines and phrases.

David Macbeth Moir.—Musselburgh, 1798—Dumfries, 1851.

Student of Medicine, 1812-1816.
"Δ" of Blackwood. His verse is remarkable for polish and tenderness. Though the development of his literary genius was checked by devotion to medical duties, he leaves behind him, in prose, *Mansie Waugh*, a piece of genuine Scotch humour, which bids fair to secure permanent popularity.

John Aitken Carlyle.—Ecclefechan, 1801—1881.

M.D., Edinburgh. (Brother of Thomas Carlyle).
He wrote an excellent translation of Dante's *Inferno*.

ESSAYISTS AND CRITICS.

Henry Home, Lord Kames.—Berwickshire, 1696—Edin. 1782.

A versatile and learned writer on agricultural, legal, religious, ethical, philosophic and historical subjects. One of the founders of the Physical and Literary Society, afterwards the Royal Society of Edinburgh.

Hugh Blair.—Edin. 1718—1801.

Student, 1730. M.A. 1739. Professor 1762-83.

His classes on Composition, under the patronage of Lord Kames, led to the foundation of the Chair of Rhetoric and Belles Lettres, to which he was appointed in 1762. His Rhetoric, Dissertation maintaining the authenticity of the *Ossianic Poems*, and sermons, are his best-known works.

Alexander Carlyle ("Jupiter Carlyle") of Inveresk.—1722—1805.

A distinguished "moderate" of peculiarly wide personal influence, and author of a pungent and valuable memoir of his time, since published by John Hill Burton.

Francis Jeffrey.—Edin. 1773—1850.

Student, 1792. Member of Speculative Society.

An able lawyer who was, as editor of *The Edinburgh Review* for twenty-six years, an indisputable force in the development of literary criticism. His application, after Alison, of the associative theory in Æsthetics is one of his chief constructive claims to remembrance.

Sir Thomas Dick Lauder, Bart.—Edin. 1784—1848.

A frequent contributor of tales and sketches to *Blackwood's* and *Tait's Magazines*. Author of one or two topographical and antiquarian works, and a well-known account of the great floods of August 1829 in Moray and adjoining districts (1830).

John Wilson ("Christopher North").—Paisley, 1785—1854.

Professor of Moral Philosophy, 1820.

As poet, writer of fiction, critic, and philosopher, he was one of the brilliant lights of Scottish literature. Versatile and exuberant, his genius had full swing in the famous *Noctes Ambrosianæ*, which appeared in *Blackwood's Magazine*. A magnificent tribute to Burns, and a series of glowing essays on Homer are lasting contributions to literary criticism.

Samuel Brown.—Haddington, 1817—Edin. 1857.

A brilliant and speculative writer on the theory and history of chemistry. The friend of Emerson, and a graceful essayist.

PUBLIC LIFE

STATESMEN, SOLDIERS, AND PUBLICISTS.

William Carstairs.—Glasgow, 1649—Edin. 1713.

Studied at Edinburgh and Utrecht.

An intimate friend of the Prince of Orange; was arrested in London in 1682 on the suspicion of being implicated in the Rye House Plot, sent for trial to Edinburgh, where the agony of torture could not make him reveal his master's secrets. On his release, returned to Holland, accompanied the Prince to England in 1688, and stood near the throne until the end of William's reign. Was Moderator of the General Assembly four times within eleven years, and Principal of the University of Edinburgh from 1704.

"Cardinal" Carstairs was one of the most prominent figures of his time. His wisdom and well-proved honesty kept him the ear of the king, and his moderation did much to conciliate opposition to the Government in his own country. He left behind him no writings, but Scotland still owes much to the sagacity and patriotism of this great ecclesiastic.

Duncan Forbes of Culloden.—1685—1747.

Studied at Edinburgh 1704, and at Leyden. Lord Advocate, 1725; Lord President, 1737.

He was distinguished as a lawyer and as a politician; and excited enormous influence in favour of the Government during the Jacobite risings of 1715 and 1745.

Sir James Denham Stewart.—Edin. 1713—1780.

Studied in Edinburgh. Exiled for many years, because of his sympathy with the House of Stuart.

He wrote a work entitled *An Inquiry into the Principles of Political Economy*, in which he, in some respects, anticipated Adam Smith.

Alexander Wedderburn, Earl of Rosslyn.—Edin. 1733—1805.

Left the Scotch for the English bar in 1757, gained much reputation by the defence of Lord Clive, and rose gradually until he reached the Chancellorship under Pitt in 1793. His judgments were characterised by dignity, as well as much ingenuity and knowledge.

Sir Ralph Abercromby.—1734—1801.

Studied, 1752-53. Served as a soldier in Holland, the West Indies, and other parts of the world, and in 1801 commanded the British Expedition against the French in Egypt. He fell in the moment of victory at Aboukir.

Henry Dundas, Viscount Melville.—Edin. 1741—1811.

Advocate in 1763; Lord Advocate in 1773, and afterwards in successive administrations under Pitt, Home Secretary, Secretary for War, and First Lord of the Admiralty; raised to the peerage in 1802; was impeached in 1806 for the alleged appropriation of public money, but acquitted. To testify their confidence in his honour, his countrymen erected to him a conspicuous monument in Edinburgh. His influence for good and evil in Scottish affairs was for many years so great that he was called the "Grand Vizier of Scotland."

William Smellie.—Edin. 1740—Edin. 1795.

Editor of the first Edition of the *Encyclopædia Britannica*, and of various scientific works.

Henry Erskine.—1746—1817.

Studied at St. Andrews, Edinburgh, and Glasgow. Lord Advocate, 1783, and again in 1806. A notable statesman, lawyer, and wit.

Sir John Sinclair.—Thurso, 1754—1835.

Studied in Edinburgh, Glasgow, and Oxford. Founded the Board of Agriculture.

Wrote many political and agricultural works, and originated and edited the *Statistical Account of Scotland.*

Henri Benjamin Constant de Rebecque.—1757—1830.

Studied at Oxford, Glasgow, and Edinburgh. Member of the Speculative Society.

He attached himself to the Moderate Republican party in France, and both under Napoleon and after the second Bourbon restoration, was a prominent exponent of constitutional principles.

Sir James Mackintosh.—Inverness, 1765—1832.

Studied at Aberdeen, 1780; M.D., Edinburgh, 1784. He afterwards went to the English Bar. Held legal office in Bombay, sat in Parliament, and was Professor of Law at Haileybury College.

His *Vindiciæ Gallicanæ* is a singularly able and sympathetic estimate of the French Revolution by a philosophic Liberal. It was written in reply to Burke's *Reflections*, and at once placed its author, then but twenty-five years of age, in the front rank of English publicists. Other works—*Dissertation on the Progress of Ethical Philosophy* is catholic and suggestive; and his fragmentary *History of the English Revolution in* 1688 is marked by insight and impartiality.

Francis Horner.—Edin. 1778—Pisa, 1817.

Studied at Edinburgh, went to Scottish Bar, 1800; English Bar, 1807; entered Parliament, 1806.

He held a high position of public influence, being eminent as a political economist. He was one of the chief promoters of the *Edinburgh Review.*

Lord Brougham.—Edin. 1778—Cannes, 1868.

Studied Art and Law at Edinburgh, 1792-1800; Lord High Chancellor of England; Chancellor of the University, 1859-1868.

The most conspicuous man in public affairs in the third and fourth decades of this century. He took a prominent part in

most of the great measures of the time—in the Abolition of Slavery, in Law Reform, and in founding the University of London, the Society for the Diffusion of Useful Knowledge, and the Mechanics' Institute. Eminently distinguished in his own professional work, and as a parliamentary debater, he wrote much and on a great variety of subjects, including mathematics and physics. Besides being one of the founders of the *Edinburgh Review*, he contributed largely to it for thirty years.

Marquis of Lansdowne.—

Studied at Edinburgh, 1796-1798; Chancellor of Exchequer, 1806; Home Secretary, 1827; Lord Rector of Glasgow University, 1830.

Lord Palmerston (Henry John Temple).—1784—1865.

From Harrow he came to Edinburgh (1800-1803), living with Dugald Stewart. "In these three years," he himself says, "I laid the foundations of whatever useful knowledge and habits of mind I possess." He afterwards spent two years at Cambridge.

He entered Parliament in 1807, and gradually rose to be the foremost English statesman of his time, popular at home, and powerful abroad. He was at various times at the head of the War Office, the Foreign Office, and the Home Office, and was twice Prime Minister of England.

Earl Russell.—1792—1878.

Educated at Westminster School and Edinburgh University.

He entered Parliament in 1813; was a Member of the Government in 1830, and 1835-41; was Prime Minister (1846-1852), and again in 1865. He had a share in most of the great measures passed in his time, especially in passing the Reform Bill of 1832.

Rev. Henry Duncan.—1744—1846.

Minister of Ruthwell. He established in 1810 the first organised Savings Bank, which led almost immediately to their institution throughout the country.

Thomas Cochrane, Earl of Dundonald.—1775—1860.

Went to sea as a boy; performed extraordinary naval exploits in the wars with France and Spain; studied at University in his scanty leisure. Having as M.P. for Westminster striven against the Government for naval and other reforms, he was unjustly accused and condemned, imprisoned and cashiered. In 1819 accepted command of the Chilian navy in the war of independence, and almost outdid his youthful exploits; in 1823 entered the service of Brazil, then throwing off the yoke of Portugal, whose navy he soon swept from the seas; in 1827 commanded the Greek fleet against Turkey; returned to Britain and was re-instated in 1832; on his eighty-third birthday published a stirring Autobiography.

Combining cool Viking audacity with desperate Berserk valour, he is the last sea-king of our annals—the Sir Richard Grenville of the age (and in fact inherited his title of "El Diabolo"); yet lives in higher memory in political history as the liberator of South America, who anticipated the cosmopolitan enthusiasm of Mazzini, and tripled the victorious knight-errantry of Byron.

LAWYERS.

John Erskine of Carnock.—1695—Cardross, 1768.

Student and Professor of Scots Law. Dealing in great part with material as yet undigested, he gave such clearness of outline to the fabric of law that his *Principles* (first published in 1754), and his ampler work, the *Institute of the Law of Scotland* (post-humously published in 1773), are still deemed the best introduction to the study of Scots Law.

David Hume (Baron).—Ninewells, 1756—Edin. 1838.

Student and Professor of Scots Law; afterwards Principal Clerk of the Court of Session, and Baron of Exchequer. In his lectures, he brought a wide and well-controlled learning to the illustration of the growth of legal doctrine, and his *Commentaries on the Law of Scotland respecting description and punishment of Crimes*, (published in 1797), gave special fulness to a department somewhat meagrely treated by Stair and Erskine.

George Joseph Bell.—Edin. 1770—Edin. 1843.

Student, and Hume's successor in the Chair of Scots Law. The balance and inclusiveness of judgment displayed in his *Commentaries on the Law of Sootland, and on the Principles of Mercantile Jurisprudence*, have given the work a great and freely-acknowledged weight in judicial deliberations. Two smaller treatises of the nature of text-books possess great succinctness and authority conferred by the author's grasp of principle and distinction as an institutional writer.

Allan Maconochie, (Lord Meadowbank).—1748—1816.

Professor of Public Law, and afterwards holder of several high legal offices.

He was also one of the founders of the Speculative Society. According to Lord Brougham, "he was one of the best of lawyers, one of the most acute men, a man of large general capacity, and of great experience; and with very few exceptions, if any, the most diligent judge we can remember in the practice of Scotch Law."

Sir James Wellwood Moncrieff.—1776—1851.

One of a race which has given several distinguished members to law and theology. Studied at Oxford, before entering the law classes at Edinburgh.

He achieved rapid distinction at the bar, where Cockburn and Jeffrey were his compeers, his pleadings being marked by a terse and massive reasoning due less to eloquence than to an iron grip of facts, and a peculiarly searching quality of intellect. On the bench, his decisions were notably well-based, and form important precedents.

Numerous other eminent Lawyers are commemorated elsewhere.

CHURCHMEN AND DIVINES.

Robert Rollock.—1555—1598.

Studied at St. Andrews. First Principal and Regent of Edinburgh 1583. He took a prominent part in church politics, and as a divine wrote Latin Commentaries on several books of Scripture.

Robert Boyd of Trochrig.—1578—1627.

Studied at Edinburgh. Professor at Montauban, and in 1606 at Saumur. Principal of Glasgow, 1615. Appointed Principal of Edinburgh, 1622, but hindered by royal authority for entering on this office.

He was an eminent divine, wrote numerous works, mainly theological.

Samuel Rutherford.—1600—1661.

Studied at Edinburgh, 1617; M.A., 1621. Prof. of Humanity, 1623-25; Prof. of Divinity at St. Andrews, 1639, deprived at the Restoration. He was one of the Scottish Commissioners to the Westminster Assembly, and was called to be Professor at Utrecht.

He was an outstanding example of Scottish Presbyterianism and of piety. He wrote on the *Divine Right of Presbytery;* the famous *Lex Rex*, in opposition to slavish Royalism; while his works on practical theology, especially his *Letters*, have nurtured the spiritual fervour of generations of Scotchmen.

Robert Leighton.—1611—1684.

Son of the ill-fated author of *Zion's Plea against the Prelacie.* Student 1627-1631. Presbyterian Minister of Newbattle in 1641, resigned 1652; then became Principal of the University, Professor

of Divinity, became Bishop of Dunblane in 1661, Archbishop of Glasgow in 1670, retired in 1674, and spent the last ten years of his life in quiet study and meditation at Broadhurst in Sussex.

Leighton's influence was small in his own times, but it has been great upon posterity. He devoted himself to the task of uniting together the two opposing ecclesiastical parties, but he succeeded only in being misunderstood by both. With characteristic modesty, he published nothing himself, but the works he left behind, especially his *Commentary upon Peter*, is among the most valuable monuments of English theology. The "aphorisms" drawn from this work form "the most philosophical of English theological treatises," Coleridge's *Aids to Reflection*. The *Sermons* and *Praelectiones Theologicæ* (delivered from his academical chair in Edinburgh) are no less valuable.

John Toland.—Londonderry, 1670—Putney, 1722.

Studied at Glasgow, 1687. Graduated at Edinburgh in 1690. He was one of the most prominent of the Deistical writers, and was largely engaged in political and other controversies. His *Christianity not mysterious* is the most notable of his works. He wrote a *Life of Milton* and edited his works.

Thomas Boston.—Duns, 1676—1732.

Student, 1691. Minister of Ettrick, 1707; the principal figure in the Scottish evangelical camp during his time.

He was a fair scholar, possessed of considerable powers of mind, and his works were once very precious in the eyes of Scottish piety. Of these the chief are the *Crook in the Lot* and the *Fourfold State*, the latter, says Carlyle, written "with the noblest intent, but in defiance of grammar and philosophy."

Thomas Chalmers.—Anstruther, 1780—Edin. 1847.

Studied at St. Andrews; Prof. Moral Phil. at St. Andrews, 1823-24; Prof. of Theology, Edinburgh, 1828-43; Principal of Free Church College, 1843-1847.

As minister in Glasgow, he attained unparalleled influence as a pulpit orator; but devoted himself to ennobling and brightening the lives of his poor and wretched parishioners. In 1843 he was the leader of the Evangelical section of the Scottish Church, and founder of the Free Church. Of the thirty volumes of his works, the majority are occupied by his sermons, and by his

Institutes of Theology. But he made valuable contributions to political economy and the question of the poor laws. He must ever be recognised as a great, fervid, broad-hearted Christian teacher and leader of men.

Edward Irving.—Annan, 1732—London, 1834.

Studied at Edinburgh; taught at Haddington and Kirkcaldy; became Assistant to Dr. Chalmers in Glasgow; called to the ministry of the Scotch Church in London in 1822.

A very popular preacher for some time: led by his tendency to mysticism, became lost in the mists of unfulfilled prophecy and belief in the continuance of the miraculous gifts of the early Christians; was deposed for heresy by the Presbytery of Annan in 1833, and died in neglect and gloom next year at Glasgow. His intimate friend Carlyle wrote, "His head, when the fog-Babylon had not obscured it, was of strong far-reaching insight. . . . His was the freest, bravest, brotherliest human soul mine ever came in contact with."

Thomas Erskine of Linlathen.—1788—1870.

Educated at Edinburgh, and called to the Scotch bar, but did not practise, lived a retired and studious life in intimate friendship with many of the best thinkers of his time.

His theological writings reveal a mind of much refinement and acuteness, warmed by a religious faith of singular sweetness and simplicity. He was much esteemed by Frederick Maurice and Dean Stanley, and the former acknowledges that he was indebted to him for his first true conception of the central question of Christianity.

John M'Leod Campbell.—1800—1871.

Studied at Glasgow, and at Edinburgh, 1816-1820. Minister at Row, but deposed for heresy by the General Assembly in 1832.

He has been called by Dean Stanley "the most spiritual and philosophical divine that has for many years adorned the ministry of the Church of Scotland." His influence on the theology of England and Scotland has been great, especially through his work on the *Nature of the Atonement*.

Thomas Guthrie.—Brechin, 1803—1873.

Studied at Edinburgh, was ordained in 1830, took an active part during the "Ten Years' Conflict" on the popular side, joined the Free Church at the Disruption in 1843, and devoted himself with characteristic energy to its support. In 1837 he came to Edinburgh, and from that time he laboured to benefit the crowded poor.

His best title to fame depends on his noble exertions to found "Ragged Schools." He was an eloquent preacher, if not a theologian.

Norman Macleod.—1812—1872.

Studied arts at Glasgow, divinity at Edinburgh.

For many years the foremost and most influential leader of the Church of Scotland; an eloquent preacher, of genial character, and broad and liberal views. He is known as first editor of *Good Words*, as author of *The Earnest Student*, *Wee Davie and the Starling*, humorous and pathetic tales, sermons, hymns, and songs.

Besides the above mentioned, there might be named a long list of men eminent as religious leaders, such as—

Sir Henry Wellwood Moncrieff (1750-1827), and the saintly **Robert Murray M'Cheyne**, Ministers of the Church of Scotland; **David Welsh** and **Robert Lee**, Theological Professors in the University; **Ebenezer Erskine** and his brother **Ralph** (1680-1754), Founders of the Secession Church; **Thomas Gillespie** (1708-1774), Founder of the Relief Church. **Hugh M'Kail** (1660-1686), and **James Renwick** (1662-1688), both martyrs for the Covenant at the age of twenty-six, were graduates of this University.

ENVOY.

So these phantasmal generations rise:
As when the Trojan in that nether wood,
Girt by the ninefold river's wandering, stood
Between two dawnings in the place of sighs,
And saw pale lips and heard faint-voiced replies
Of great men dead, a moving multitude,
King, priest, bard, warrior, healer, where the good
Dwell separate, with crowned hair and augural eyes.

Then through the ivory gate to war he went,
And sailed through moonlight into blood-red dawn:
As we again by supreme fate are drawn
To labouring days from gazes backward sent
Across three hundred years, whose ripples bar
The long reflection of our Northern Star.

Edited by Patrick Geddes from Contributions by Alexander Anderson, H. Bellyse Baildon, F. M. Caird, W. L. Carrie, T. Davidson, D. Munro Fraser, James Geikie, G. A. Gibson, J. W. Mackail, T. C. Martin, John S. Mackay, R. Milne Murray, P. W. Nicholson, James Oliphant, David Patrick, J. Arthur Thomson, H. A. Webster, and Mortimer Wheeler, all past or present Members of the University.

Photolithograph from a clay sketch for the bust of Carlyle by Charles Macbride.

Scott and Ferguson, Printers, Edinburgh

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